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BOOK REVIEW

Héylette Geman: Commodities and Commodity Derivatives - Modeling and Pricing for Agriculturals, Metals and Energy

Wiley, 2005, 416 pages, 172 CHF

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The recently published book "Commodities and Commodity Derivatives: Modeling and Pricing for Agriculturals, Metals and Energy" by Héylette Geman gives the reader a very good review in the area of commodities and commodity derivatives that have attracted increasing attention over the past few years.

The first chapter of the book is an introduction to the fundamentals of commodities and commodity markets. In the following chapter the interaction of spot and forward prices as well as indexation are regarded. Chapter 3 describes how commodity spot prices and forward curves can be modeled. It gives a profound understanding about stochastic processes and which are relevant for commodity prices. After the introduction to options in the first part of chapter 4 (although options and their function are already mentioned in previous chapters), the Black Scholes formula and its Greeks are derived and explained before Geman comes to the valuation of options on commodity spot prices. In chapter 5, the risk neutral valuation of options and stochastic interest rates in the valuation of commodity options are described. The next chapter shows the valuation of exotic options and the pricing with Monte Carlo simulations. This first six chapters conclude the basics for pricing commodity derivatives in general.

Chapter 7 looks at the special case of agricultural commodity markets, with the relevant crops as well as its main producers. In the next chapter, metal markets and the characteristics of metal price movements are regarded. At the end of this chapter, some common forward price structures of metals are illus-

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trated. Coming now in chapter 9 to the oil market that is the biggest commodity market in the world. The two major markets, refined products and especially crude oil market, are highlighted here. The fast growing gas market is following in chapter 10. Geman looks at the gas market with its main producing countries and the trading of energy. In the subsequent chapter 11, the electricity market with its special design and the spot power market are illustrated. There is also a look at electricity derivatives and the modeling of energy spot prices. Therefore, chapter 12 is devoted to important options in the energy industry. Chapter 13 addresses the last commodities in this book. These are coal, emissions and weather, whereas coal focuses one's attention. The last chapter especially is suitable for investors in the commodity market. It shows different ways for investment and most popular commodity indexes with its compositions.

The appendix consists of a glossary that is a good feature for short looking up something (the index of 16 pages also gives a good information where to find things).

A minor error is regarding the figures that differ in their illustration throughout the book. One great feature of the book is that Geman also introduces historical explanations (for example, why special processes are developed and with what background). Readers without any knowledge of statistics will have problems in the first six chapters. Geman describes basics but cuts short. On the other hand, readers who have preliminary knowledge will benefit of chapters 1 to 6 since it refreshes the background of derivative pricing and how to use them in the area of commodities. From chapter 7 on major commodity markets with their producers are described in a very detailed way. Investors who are thinking about investing in commodities will profit from these chapters. For everybody who wants to familiarize himself with commodities I recommend reading the second part.

To my knowledge there do not exist any recent books in the area of commodities and commodity derivatives which provide such a good explanation of all these tools in only one book.